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fragile models was committed to Mr. WORTHINGTON G. SMITH, and in connection with this the *Guide* was published. There has now appeared[13] a second edition which has been carefully revised, and a glossary has been added.—J. M. C.

**Natürlichen Pflanzenfamilien.**—Parts 231, 232, and 233 continue the presentation of mosses by V. F. BROTHERUS, completing Thuidieae, and presenting Hypnaceae, Leucomiaceae, Sematophyllaceae, Rhegmatodontaceae, and Brachytheciaceae.—J. M. C.

## NOTES FOR STUDENTS

**Current taxonomic literature.**—A. D. E. ELMER (Leaflets of Philippine Botany **1**:272–359. 1908) describes 100 new species of flowering plants, belonging to various genera, and (*idem* **2**:375–384) 9 new species of Lauraceae all indigenous to the Philippine Islands.—J. D. HOOKER (Hook. Ic. Pl. *pls. 2851–2875.* 1908) describes and illustrates 24 new species and one new variety of the genus Impatiens from China. The types are deposited either in the Paris, Le Mans, or Kew Herbarium.—V. L. KOMAROV (Acta Hort. Petrop. **29**:1–176. 1908), under the title of *Prolegomena ad floras Chinae nec non Mongoliae*, makes a valuable contribution to the literature concerning the flora of China; it includes, moreover, a critical revision of *Clematoclethra* Max., *Codonopsis* Wall., *Epimedium* and *Nitraria* L., in which genera 9 species and one variety are proposed as new to science.—HOMER D. HOUSE (Muhlenbergia **4**:49–56. 1908) gives a *Synopsis of the California species of Convolvulus.* The author recognizes 26 species, two of which are new.—W. P. HIERN (Journ. Bot. **46**:273–278. 1908) records the occurrence of a Sagittaria in the river Exe, near Exeter, England. The plant is described as a new variety of a North American species.—SPENCER LE M. MOORE (*idem* 290–298) describes 12 species of African plants as new to science, and proposes a new genus (*Grossweilera*) of Compositae; the same author (*idem* 305–313) characterizes 11 new species of African plants and a new genus (*Swynnertonia*) of the Asclepiadaceae, and also a new genus (*Eylesia*) of the Scrophulariaceae.—G. BONATI (Bull. Hb. Boiss. II. **8**:525–539. 1908) gives a synopsis of the genus Mazus. The author recognizes 24 species, 14 of which, and 2 varieties, are described as new.—J. BORNMÜLLER (*idem* 545–560) in a list of plants of the Elburz Mountains in northern Persia includes the description of a new species of Euphorbia.—FRANZ STEPHANI (*idem* 561–608, 661–696) describes 41 new species of Hepaticae, referred to various genera.—EDMOND MALINOWSKI (*idem* 623, 624) records a new species of Crucianella from Kurdistan.—HANS SCHINZ, in collaboration with different specialists (*idem* 625–640), describes 32 new species of African plants, including a new genus (*Pseudotragia*) of the Euphorbiaceae.—A. BRAND (Philip. Journ. Sci. **3**:1–10. 1908) gives a synopsis of the Symplocaceae of the Philippine Islands, in which 16 species are recognized, 6 of which, in addition to 3 varieties, are described as new.—T. NAKAI (Journ. Coll. Sci. Imp. Univ. Tokyo **23**:1–28. 1908) presents a careful synopsis of the Polygonaceae of Corea and describes one new species and a new variety in the genus Polygonum.—N. L. BRITTON (Bull. Torr. Bot. Club **35**:337–345. 1908), under the title of *Studies of West Indian plants, I*, describes 5 species as new to science.—IG. URBAN, in collaboration with different specialists (Engl. Bot. Jahrb. **42**:49–176. 1908), under the title *Plantae novae andinae imprimis Weberbauerianae, IV*, has published 173 new species and 25 new varieties of South American plants, and also 4 new genera: *Fiebrigiella* (Leguminosae), *Centradeniastrum* (Melastomaceae), *Guraniopsis* (Cucurbitaceae), and *Huthia* (Polemoniaceae).—HENRI LECOMTE (Jour. Botanique II. **21**:101–109. 1908) describes 7 new species of Eriocaulon from Indo-China.—ALFRED CHABERT (Bull. Soc. Bot. France IV. **8**:305–310. *pls. 12, 13*. 1908) proposes 2 new varieties of *Campanula rhomboidalis* L. from France.—G. BONATI (*idem* 310–314) describes 4 new species of Pedicularis from China.—F. GAGNEPAIN (*idem* 322–325) describes 2 new species of the Capparidaceae from China.—E. A. FINET (*idem* 333–343) has published 11 new species and 1 variety of orchidaceous plants from South America and from different parts of the Old World.—H. LÉVEILLÉ (*idem* 407–409) recognizes 5 species of Mucuna indigenous to China, 2 of which are described as new.—S. T. DUNN (Jour. Linn. Soc. London **38**:350–373. 1908) gives an account of *A botanical expedition to Fokien, China*, followed by descriptions of 37 new species and 1 new variety.—T. F. CHIPP (*idem* 374–391) in *A revision of the genus Codonopsis* recognizes 22 species, 4 of which are new to science.—Various authors, under the title *Diagnoses Africanae, XXIV* (Kew Bull. pp. 286–300. 1908), have published 16 new species and 5 varieties of African plants, including a new genus (*Cotylonychia*) of the Sterculiaceae, and also a new genus (*Hemandradenia*) of the Connaraceae.—HENRY PITTIER (Contrib. U. S. Nat. Herb. **12**:159–169. 1908), following a general discussion of the genus *Sapium* and an analytical key to the Mexican and Central American species, describes and illustrates the 9 species recognized for this region; of these 6 are new to science, and 4 are published in joint authorship with the late Prof. KARL SCHUMANN.—ED. PALLA (Oesterr. Bot. Zeitschr. **58**:389–392. 1908) describes 3 new species of Cyperaceae from Mexico and Colombia.—CHARLES BROOKS (Bull. Torr. Bot. Club **35**:423–456. 1908) gives an account of *The fruit spot of apples* and records a new species of the genus Cylindrosporium.—P. A. RYDBERG (*idem* 457–465) recognizes 6 species of Philotria for this country, one being described as new.—EUGENE P. BICKNELL (*idem* 471–498), under the title *Ferns and flowering plants of Nantucket, III*, has published 2 new species and proposes 7 new combinations chiefly in the genus Carex.—FRANK D. KERN (*idem* 499–511) in *Studies in the genus Gymnosporangium* publishes 3 new species and makes 3 new combinations.—F. PETRAK (Fedde, Rep. Nov. Sp. **5**:329–333. 1908) describes 9 new hybrids and 1 new variety in the genus Cirsium from southern Europe.—E. HACKEL (*idem* 333–335) records a new species of Phalaris from Australia.—F. KRÄNZLEIN (*idem* 369, 370) has described a new species of Calceolaria from Bolivia.—E. ROSENSTOCK (*idem* 370–376) has published 6 new species and 5 varieties of ferns from New Guinea.—J. BORNMÜLLER (*idem* 376, 377) records a new species of Reaumuria from Persia.—D. GRIFFITHS (Rep. Mo. Bot. Gard. **19**:259–272. *pls. 21–28.* 1908), under the title *Illustrated studies in the genus Opuntia—I*, has described 15 new species of Opuntia from Mexico and the southwest.—W. GUGLER (Ann. Mus. Hung. **6**:15–297. *pl. 1.* 1908), under the title of *Die Centaureen des Ungarischen National-Museums*, records in detail the species and subordinate categories of the genus Centaurea represented in the Hungarian National Museum; the work is preliminary to a monograph of this genus.—F. STEPHANI (Bull. Herb. Boiss. II. **8**:837–866. 1908) has described 45 new species of Hepaticae, of which several are American.—B. DE LESDAIN (Bull. Soc. Bot. France IV. **8**:420–424. 1908), under *Notes lichénologiques*, describes 3 species and 2 varieties as new to science.—H. LÉVEILLÉ (*idem* 424–427) enumerates 11 species of the genus Pueraria for China, of which 5 are published in joint authorship with VAUT.—P. DOP (*idem* 427–430) describes 3 new species of the Malpighiaceae from Indo-China.—F. GAGNEPAIN (*idem* 430–436) proposes 3 new species of the Zingiberaceae from Oceania.—H. DE BOISSIEU (*idem* 467–470) has described 4 species and 3 varieties of Violaceae from the Orient.—L. A. DONDE (*idem* 470, 471) has published a new species of Carya from Mexico.—H. COSTE (*idem* 472–476) records 2 new hybrids in the genus Cistus from southern France.—A. W. EVANS (Rhodora **10**:185–193. 1908) publishes further notes concerning New England Hepaticae. The total number of species in this group thus far recorded for New England is 147.—A. DAVIDSON (Muhlenbergia **4**:65–68. 1908) lists a collection of plants made in the Tehachapi Mountains, California, and proposes a new species in the genus Fritillaria.—D. PRAIN (Bull. Kew 381–387. 1908) gives a short history of Butea, a brief revision of the genus, and records 1 new species.—N. E. BROWN and O. STAPF (*idem* 407–412) describe 10 new species of African plants.—R. A. ROLFE (*idem* 412–416), under the title of *New orchids: Decade 32*, has published 10 new species.—T. F. CHEESEMAN (*idem* 419–421) records a new species of the genus Bagnisia from New Zealand.—E. DE WILDEMAN (Pl. Fl. Congo **2**:167–268. 1908), in connection with certain economic studies, has published 7 new species and 2 new varieties of Apocynaceous plants of Africa, chiefly from the Congo region.—B. SCHROEDER (Ber. Deutsch. Bot. Gesells. **26a**:615–620. 1908) has published 2 new species of Bacillariaceae from plankton of the Adriatic Sea.—J. H. MAIDEN and E. BETCHE (Proc. Linn. Soc. N. S. W. **33**:304–319. 1908) have published 5 new species and 3 new varieties of Australian flowering plants.—G. E. MATTEI (Boll. R. Orto Bot. Giard. Col. Palermo **7**:85–112. 1908), under the title *Contribuzioni alla Flora della Somalia italiana*, has described 9 new species of flowering plants.—C. S. SARGENT (Ont. Nat. Sci. Bull. 11–98. 1908) has described 44 new species of Crataegus from Ontario: the same author (Rep. Mo. Bot. Gard. **19**:35–126. 1908) proposes 69 new species of Crataegus from Missouri, and in another place (Bull. N. Y. State Mus. 122:26–130. 1908) 83 from New York.—C. H. PECK (*idem* 5–25, 131–160) has published 8 new species of fungi from New York.—H. CHRIST (Philip. Journ. Sci. **3**:269–276. 1908) has published 12 new species and 2 new varieties of Philippine ferns.—E. B. COPELAND (*idem* 277–284) describes 8 new species and 3 new varieties of ferns from China; and the same author (*idem* 285–300) presents *A revision of the Philippine species of Athyrium* in which 46 species are recognized, 5 species and 1 variety being described as new to science. —E. D. MERRILL (*idem* 307–315), under the title of *Philippine Freycinetia*, records 24 species of this genus from the Philippine Islands, 8 being described as new; and the same author (*idem* 317–338) has published 6 new species of oaks and 6 new species and 1 new variety of the genus Radermachera from the Philippine Islands. —R. WAGNER (Oesterr. Bot. Zeits. **58**:435–439. 1908) has described a new species of Tropaeolum from Columbia.—F. SENNEN (Bull. Acad. Intern. Geogr. Bot. III. **17**:449–480. 1908), under the title of *Plantes d'Espagne*, has published in joint authorship with C. PAU 6 new species and several new varieties of flowering plants from Spain.—R. FRIES (K. Sv. Vet. Akad. Handl. **42**:1–67. *pls. 1–7.* 1908) has published 23 new species and 14 new varieties of Malvales, chiefly from South America; the same author (*idem* **43**:1–114. *pls. 1–10.* 1908) recognizes 37 species for the genus Wissadula, of which 11 species and 4 varieties are described as new, and a new genus (*Pseudoabutilon*) of the Malvaceae is proposed, to which are referred 9 species, 3 being new to science.—K. JOHANSSON (Arkiv för Botanik **7**:no. 12, pp. 48. *pls. 1–5.* 1908), under the title *Hieracia vulgata Fr. från Torne Lappmark*, enumerates 35 species, 20 of which and 3 varieties are described as new.—J. M. GREENMAN.

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[13] SMITH, WORTHINGTON GEORGE, Guide to SOWERBY'S models of British Fungi. Second edition, revised. pp. iv+85. *figs. 91.* London: The Trustees of the British Museum. 1908.

**Effect of light on germination of seeds.**—HEINRICHER[14] has recently added two more papers to his series on the effect of light on germination, and KINZEL[15] publishes a second paper (preliminary statement) on his extensive researches on this subject. Data enough are now at hand to get at some general principles. In respect to the effect of white light upon their germination, seeds may be divided into four groups: those requiring light for germination (*Rhododendron javanicum, R. hirsutum, R. ferrugineum, Drosera capensis*, etc.); those germinating more quickly and fully in light (*Veronica peregrina, Allium suaveolens*, etc.); those germinating equally well in light and darkness (*Myrmecodia echinata*, etc.); and those retarded in germination by light (*Phacelia tanacetifolia, Pedicularis Sceptrum Carolinium*). It is agreed by both authors that the favorable effect of light is not due to its causing an early carbon assimilation, but rather to its effect upon enzyme activity on production and therefore upon the digestion of stored foods. The conclusion concerning photosynthesis seems to be justified, for in all cases tested the light is as effective in $CO_2$-free chambers as in chambers containing $CO_2$. The effects of different rays as stated in the following paragraph also seem

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[14] HEINRICHER, E., (1) Beeinflüssung der Samenkeimung durch das Licht. Wiesner-Festschrift. Wien. 1908. (2) Die Samenkeimung und das Licht. Ber. Deutsch. Bot. Gesells. **26a**:298–301. 1908.

[15] KINZEL, W., Die Wirkung des Lichtes auf die Keimung. Ber. Deutsch. Bot. Gesells. **26a**:105–115. *figs. 4.* 1908.